AMENDMENTS TO THE CLAIMS:

Please amend the claims as follows:

1. (Currently amended) A photomask comprising:

a mask pattern formed on a transparent substrate; and

a transparent portion of said transparent substrate where said mask pattern is not formed,

wherein said mask pattern includes a main pattern to be transferred through exposure and

an auxiliary pattern that diffracts exposing light and is not transferred through the exposure,

said main pattern is composed of a first semi-shielding portion that has first transmittance

for partially transmitting said exposing light and transmits said exposing light in an identical

phase with respect to said transparent portion, and a phase shifter that transmits said exposing

light in an opposite phase with respect to said transparent portion, [[and]]

said auxiliary pattern is made from a second semi-shielding portion that has second

transmittance for partially transmitting said exposing light and transmits said exposing light in

the identical phase with respect to said transparent portion, and

a pattern width of said auxiliary pattern is smaller than that of said main pattern.

2. (Original) The photomask of Claim 1,

wherein said first transmittance is 15% or less.

3. (Currently amended) The photomask of Claim 1,

wherein said second transmittance is not less than 6% and not more than [[50%]] 15%.

4. (Currently amended) [[A]] The photomask of Claim 1, comprising:

a mask pattern formed on a transparent substrate; and

a transparent portion of said transparent substrate where said mask pattern is not formed,

wherein said mask pattern includes a main pattern to be transferred through exposure and an auxiliary pattern that diffracts exposing light and is not transferred through the exposure,

a part of said transparent portion is disposed between said main pattern and said auxiliary pattern, and

with respect to an oblique incident angle ϕA defined as $\sin\phi A = NA \times SA$ when a given oblique incident position is indicated by SA (wherein $0.4 \leq SA \leq 0.8$), a center of said auxiliary pattern is disposed in or in the vicinity of a position away from a center of said main pattern by a distance $M \times (\lambda/(2 \times \sin\phi A))$, wherein λ indicates a wavelength of said exposing light and M and NA indicate magnification and numerical aperture of a reduction projection optical system of an aligner.

5-6. (Canceled)

7. (Currently amended) The photomask of Claim [[6]] 1,

wherein said phase shifter is disposed at a center of said main pattern to be surrounded by said first semi-shielding portion.

8. (Currently amended) The photomask of Claim 7,

wherein a dimension of a part of said first semi-shielding portion sandwiched between said phase shifter and said transparent portion is not less than 20 nm and not more than $(0.3 \times \lambda/NA) \times M$, wherein λ indicates a wavelength of said exposing light and M and NA indicate magnification and numerical aperture of a reduction projection optical system of an aligner.

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9. (Currently amended) The photomask of Claim 7,

wherein a dimension of a part of said <u>first</u> semi-shielding portion sandwiched between said phase shifter and said transparent portion is not less than 1/4 of a wavelength of said exposing light and not more than (0.3 x λ/NA) x M, wherein λ indicates the wavelength of said exposing light and M and NA indicate magnification and numerical aperture of a reduction projection optical system of an aligner.

10. (Canceled)

11. The photomask of Claim [[6]] <u>1</u>,

wherein said phase shifter is disposed in a peripheral portion of said main pattern to be surrounded by a part of said <u>first</u> semi-shielding portion.

12-14. (Canceled)

15. (Currently amended) [[A]] <u>The</u> photomask <u>of Claim 1</u>, ~~comprising:~~
~~a mask pattern formed on a transparent substrate; and~~
~~a transparent portion of said transparent substrate where said mask pattern is not formed,~~
wherein ~~said mask pattern includes a main pattern to be transferred through exposure and~~
~~an auxiliary pattern that diffracts exposing light and is not transferred through the exposure,~~
a part of said transparent portion is disposed between said main pattern and said auxiliary pattern, and

with respect to an oblique incident angle φB defined as $\sin\varphi$B = NA x SB when a given oblique incident position is indicated by SB ($0.4 \leq SB \leq 0.8$), a center of said auxiliary pattern is disposed in or in the vicinity of a position away from a center of said main pattern by a distance M x ((λ/(2 x $\sin\varphi$B)) + (λ/(NA + $\sin\varphi$B))), wherein λ indicates a wavelength of said exposing

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light and M and NA indicate magnification and numerical aperture of a reduction projection optical system of an aligner.

16-25. (Canceled)

26. (Currently amended) [[A]] The photomask of Claim 1, comprising:

a mask pattern formed on a transparent substrate; and

a transparent portion of said transparent substrate where said mask pattern is not formed,

wherein said mask pattern includes a main pattern to be transferred through exposure and an auxiliary pattern that diffracts exposing light and is not transferred through the exposure,

said auxiliary pattern includes a first auxiliary pattern that is disposed in or in the vicinity of a position away from a center of said main pattern by a distance X with a part of said transparent portion sandwiched between said main pattern and said first auxiliary pattern, and a second auxiliary pattern that is disposed on a side of said first auxiliary pattern farther from said main pattern in or in the vicinity of a position away from a center of said first auxiliary pattern by a distance Y with a part of said transparent portion sandwiched between said first auxiliary pattern and said second auxiliary pattern, and

said distance X is larger than said distance Y.

27. (Canceled)

28. (Currently amended) The photomask of Claim 26,

wherein when a given oblique incident position is indicated by SA (wherein $0.4 \leq SA \leq 0.8$), with respect to an oblique incident angle φA defined as $\sin\varphi A = NA \times SA$, a center of said first auxiliary pattern is disposed in or in the vicinity of a position away from a center of said main pattern by a distance a relationship, $X = M \times (\lambda/(2 \times \sin\varphi A))$, holds wherein λ indicates a

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wavelength of said exposing light and M and NA indicate magnification and numerical aperture of a reduction projection optical system of an aligner.

29-38. (Canceled)

39. (Currently amended) A photomask comprising:

a mask pattern formed on a transparent substrate; and

a transparent portion of said transparent substrate where said mask pattern is not formed,

wherein said mask pattern includes a main pattern to be transferred through exposure and an auxiliary pattern that diffracts exposing light and is not transferred through the exposure,

said main pattern is composed of a first semi-shielding portion that has first transmittance for partially transmitting said exposing light and transmits said exposing light in an identical phase with respect to said transparent portion, and a phase shifter that transmits said exposing light in an opposite phase with respect to said transparent portion,

said auxiliary pattern includes a first auxiliary pattern that has a width D1 and is disposed with a part of said transparent portion sandwiched between said main pattern and said first auxiliary pattern and a second auxiliary pattern that has a width D2 and is disposed on a side of said first auxiliary pattern farther from said main pattern with a part of said transparent portion sandwiched between said first auxiliary pattern and said second auxiliary pattern, and

said width D2 is larger than said width D1.

40. (Original) The photomask of Claim 39,

wherein a ratio D2/D1 is not less than 1.2 and not more than 2.

41-42. (Canceled)

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43. (Currently amended) The photomask of Claim [[42]] 39,

wherein said phase shifter is disposed at a center of said main pattern to be surrounded by said first semi-shielding portion.

44. (Currently amended) The photomask of Claim 43,

wherein a dimension of a part of said first semi-shielding portion sandwiched between said phase shifter and said transparent portion is not less than 20 nm and not more than (0.3 x λ/NA) x M, wherein λ indicates a wavelength of said exposing light and M and NA indicate magnification and numerical aperture of a reduction projection optical system of an aligner.

45. (Currently amended) The photomask of Claim 43,

wherein a dimension of a part of said first semi-shielding portion sandwiched between said phase shifter and said transparent portion is not less than 1/4 of a wavelength of said exposing light and not more than (0.3 x λ/NA) x M, wherein λ indicates the wavelength of said exposing light and M and NA indicate magnification and numerical aperture of a reduction projection optical system of an aligner.

46. (Currently amended) The photomask of Claim 43,

wherein said main pattern is composed of a shielding portion replaced with said first semi-shielding portion and said phase shifter.

47. (Currently amended) The photomask of Claim [[42]] 39,

wherein said phase shifter is disposed in a peripheral portion of said main pattern to be surrounded by a part of said first semi-shielding portion.

48. (Currently amended) The photomask of Claim [[42]] 39,

wherein said first semi-shielding portion has transmittance of 15% or less.

49. (Currently amended) The photomask of Claim 39,

wherein said first auxiliary pattern and said second auxiliary pattern are made from a

shielding portion or a second semi-shielding portion that has second transmittance for partially

transmitting said exposing light and transmits said exposing light in an identical phase with

respect to said transparent portion.

50. (Currently amended) The photomask of Claim 49,

wherein the transmittance of said second semi-shielding portion is not less than 6% and

not more than 50%.

51-56. (Canceled)

57. (Withdrawn) A mask data creation method for creating mask data for a photomask

including a mask pattern formed on a transparent substrate and a transparent portion of said

transparent substrate where said mask pattern is not formed, comprising the steps of:

generating a main pattern corresponding to a desired unexposed region of a resist formed

by irradiating said resist with exposing light through said photomask;

determining a shape of a phase shifter that is disposed within said main pattern and

transmits said exposing light in an opposite phase with respect to said transparent portion;

disposing an auxiliary pattern for diffracting said exposing light in a position on said

transparent substrate away from said phase shifter by a given distance;

setting an edge of said main pattern corresponding to a boundary between said main

pattern and said transparent portion as a CD adjustment edge;

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predicting, through simulation, a dimension of a resist pattern formed by using said main pattern including said phase shifter and said auxiliary pattern; and

changing a shape of said main pattern by moving said CD adjustment edge when said predicted dimension of said resist pattern does not accord with a desired dimension.

58. (Withdrawn) The mask data creation method of Claim 57,

wherein said main pattern includes a semi-shielding portion that transmits said exposing light in an identical phase with respect to said transparent portion.

59. (Withdrawn) The mask data creation method of Claim 58,

wherein said phase shifter is disposed at a center of a part having a given or smaller dimension of said main pattern to be surrounded by said semi-shielding portion.

60. (Withdrawn) The mask data creation method of Claim 59,

wherein said phase shifter is disposed with a part of said semi-shielding portion having a given or larger width sandwiched between said transparent portion and said phase shifter.

61. (Withdrawn) The mask data creation method of Claim 58,

wherein said phase shifter is disposed in a peripheral portion of said main pattern.

62. (Withdrawn) The mask data creation method of Claim 57,

wherein said main pattern includes a shielding portion, and

said phase shifter is disposed at a center of a part having a given or smaller dimension of said main pattern to be surrounded by said shielding portion.

63. (Withdrawn) The mask data creation method of Claim 62,

wherein said phase shifter is disposed with a part of said shielding portion having a given or larger width sandwiched between said transparent portion and said phase shifter.

64. (Withdrawn) A mask data creation method for creating mask data for a photomask including a mask pattern formed on a transparent substrate and a transparent portion of said transparent substrate where said mask pattern is not formed, comprising the steps of:

generating a main pattern corresponding to a desired unexposed region of a resist formed by irradiating said resist with exposing light through said photomask;

separating said main pattern into a first region and a second region;

disposing a first auxiliary pattern for diffracting said exposing light in a position on said transparent substrate away from said first region of said main pattern by a given distance; and

disposing a second auxiliary pattern for diffracting said exposing light in a position on said transparent substrate away from said second region of said main pattern by another given distance.

65. (Withdrawn) The mask data creation method of Claim 64,

wherein either of said first region and said second region is a transistor region.

66. (New) The photomask of Claim 1,

wherein said first semi-shielding portion and said second semi-shielding portion are formed by the same semi-shielding film.

67. (New) The photomask of Claim 3,

wherein said first semi-shielding portion and said second semi-shielding portion are formed by the same semi-shielding film.

68. (New) The photomask of Claim 28,

wherein with respect to an oblique incident angle φA defined as $\sin\varphi A = NA \times SA$ when a given oblique incident position is indicated by SA $(0.4 \leq SA \leq 0.8)$, a center of said auxiliary pattern is disposed in or in the vicinity of a position away from a center of said main pattern by a distance M x $((\lambda/(2 \times \sin\varphi A)) + (\lambda/(NA + \sin\varphi A)))$, wherein λ indicates a wavelength of said exposing light and M and NA indicate magnification and numerical aperture of a reduction projection optical system of an aligner.

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